

Art Unit: 1700

CLMPTO

FRF

11/30/01

1. (Amended) A process for the preparation of polyoxymethylene copolymers exhibiting a reduced amount of unstable terminal end groups comprising, polymerizing 1,3,5-trioxane with at least one cyclic ether [and] or acetal comonomer with the aid of a strong protonic acid or Lewis acid initiator and in the presence of a formaldehyde dialkyl acetal, the improvement comprising dissolving the initiator in the formaldehyde dialkyl acetal before introducing the same to the trioxane and the comonomers.

2. The process according to claim 1, wherein the strong protonic acid initiator is selected from the group consisting of trifluoromethanesulfonic acid and anhydrides, pentafluoroethylsulfonic acid and anhydrides, heptafluoropropylsulfonic acid and anhydrides, nonafluorobutyl sulfonic acid and anhydrides, and perfluoroheptylsulfonic acid, anhydrides,

and mixtures thereof and the Lewis acid is selected from the group consisting of phosphorus pentafluoride, silicon tetrafluoride, boron trifluoride, boron trifluoride etherates, titanium tetrachloride, arsenic pentafluoride, triphenylmethyl hexafluorophosphate, and mixtures thereof.

3. The process according to claim 2, wherein the strong protonic acid initiator is trifluoromethanesulfonic acid and the Lewis acid is boron trifluoride.

4. The process according to claim 3, wherein the strong protonic acid or Lewis acid initiator is present in an amount of from about 0.01 to about 1 ppm, based on the total amount of trioxane and comonomers.

5. The process according to claim 4, wherein the formaldehyde dialkyl acetal is selected from the group consisting

Art Unit: 1700

of formaldehyde dimethyl acetal, formaldehyde diethyl acetal, formaldehyde dipropyl acetal, formaldehyde dibutyl acetal, and mixtures thereof.

6. The process according to claim 5, wherein the formaldehyde dialkyl acetal is formaldehyde dimethyl acetal.

7. The process according to claim 6, wherein the formaldehyde dialkyl acetal is present in an amount of from about 3.4 to about 34 mmol per kg of trioxane and comonomers.

8. The process according to claim 2, wherein the formaldehyde dialkyl acetal containing the dissolved strong protonic acid initiator is added to the comonomers before admixing to the trioxane.